

Sporotrichosis in a 9-month-old baby boy: a rare presentation

Esporotricose em bebê de 9 meses: uma apresentação rara

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Abstract

Sporotrichosis is a subacute to chronic mycosis caused by species of the genus *Sporothrix*. While the lymphocutaneous form predominates in most cases, immunocompromised individuals may present with disseminated variants. It is more prevalent in adults and rare in infants, with poorly studied risk factors and epidemiological aspects in this age group. We describe a case of sporotrichosis infection in a 9-month-old child, presenting with two progressively growing nodules, soft in consistency, located in the right cervical and pre-auricular regions, associated with a decline in general condition and fever over a month's duration. Despite multiple oral antibiotics, there was no lesional improvement. Aspiration of one of the nodules, and culture of the secretion revealed *Sporothrix*. The patient was then treated with oral itraconazole, leading to regression of the lesions within 2 months. The identification of the transmission agent in this case was not possible. This report aims to broaden the understanding of sporotrichosis manifestation in infants and to provide valuable insights for the enhancement of specific preventive, diagnostic, and therapeutic strategies for this age group of dermatological patients.

Keywords: Sporotrichosis. Infant. Epidemiology. Treatment. *Sporothrix*.

Resumo

A esporotricose é uma micose subaguda a crônica causada por espécies do gênero *Sporothrix*. A forma linfocutânea predomina na maioria dos casos, porém indivíduos imunocomprometidos podem apresentar variantes disseminadas. Embora mais prevalente em adultos, sua ocorrência em lactentes é um fenômeno raro, com fatores de risco e aspectos epidemiológicos pouco estudados. Descrevemos um caso de infecção por esporotricose em criança de 9 meses, que se manifestou por dois nódulos de crescimento progressivo, de consistência mole, localizados nas regiões cervical direita e pré-auricular, associados a uma deterioração na condição geral e febre ao longo de um mês. Apesar de múltiplos tratamentos com antibióticos, não houve melhora das lesões. A cultura do material aspirado de um dos nódulos revelou *Sporothrix*. O paciente foi então tratado com itraconazol oral, levando à regressão das lesões em 2 meses. A identificação do agente de transmissão neste caso não foi possível. Este relato visa ampliar a compreensão da manifestação da esporotricose em lactentes e fornecer informações valiosas para o aprimoramento de estratégias específicas de prevenção, diagnóstico e tratamento para esse grupo particular de pacientes dermatológicos.

Palavras-chave: Esporotricose. Criança. Epidemiologia. Terapêutica. *Sporothrix*.

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Introduction

Sporotrichosis is a subcutaneous mycosis resulting from the traumatic inoculation of fungi belonging to the *Sporothrix* genus, prevalent in tropical climate countries in South America, Asia, and Africa, particularly in Colombia, Peru, Brazil, Venezuela, Mexico, Japan, India, and China¹. Since 1997, an epidemic of this zoonotic disease has been observed in the state of Rio de Janeiro, primarily transmitted by felines, with a higher incidence in the capital and municipalities of Baixada Fluminense. In this epidemic scenario, children may become infected due to their interactions with animals in areas proximal to their residences. However, the involvement of infants is rarely described and may pose a significant clinical and epidemiological challenge. Late diagnosis contributes to the progression of cutaneous lesions and the consequent formation of esthetically undesirable scars².

Clinical case

A 9-month-old male patient, born in Rio de Janeiro, and residing in Duque de Caxias, was observed due to lumps on the neck. The mother reported the appearance of two asymptomatic nodules with progressive growth for 1 month, located in the right cervical and pre-auricular regions. The patient also exhibited irritability, fever, and insufficient weight gain. He had previously been treated with multiple antibiotic regimens, including amoxicillin with clavulanate, azithromycin, ceftriaxone, and oxacillin, without clinical improvement.

The patient was born via normal delivery at term, with normal growth and development for his age. He was breastfeeding, with a complete vaccination schedule, no comorbidities or medication use, and the family history did not indicate anything noteworthy. In the social history, the patient had contact with an apparently healthy cat in the household, but this cat did not stay exclusively indoors.

On dermatological examination, two erythematous nodules were observed, with a soft consistency. The larger nodule was in the right pre-auricular region, and a smaller one was in the right cervical region (Fig. 1).

Considering the clinical context, the diagnostic hypotheses considered were cat scratch disease, suppurative lymphadenitis, lymphocutaneous sporotrichosis, and cutaneous tuberculosis.

Lesion ultrasound revealed reactive right cervical lymphadenopathy with central flow. Complete blood

count, serologies for *Bartonella henselae*, and *quintana*, *toxoplasmosis*, and cytomegalovirus, were normal or negative as well as the 5 mm purified protein derivative test and a chest X-ray. Aspiration of the larger nodule revealed abundant yellowish fluid, which underwent culture for fungi, tuberculous, and non-tuberculous mycobacteria, as well as Gram stain and culture for common bacteria. Mycological examination revealed the growth of a membranous colony with a white color and a dark halo that on microscopy showed septate, branched, thin hyphae, giving rise to conidiophores that produced pyriform conidia arranged in a daisy pattern (Fig. 2). These laboratory findings, combined with the clinical presentation, indicated the diagnosis of lymphocutaneous sporotrichosis.

The patient was treated with oral itraconazole 10 mg/kg/day, with periodic reassessments initially at 2 weeks and monthly thereafter. The clinical lesions showed significant regression after the 1st month of treatment and nearly complete resolution by the end of the 2nd month of treatment (Fig. 3), with a total treatment duration of 4 months. A discreet hyperchromic scar remained at the site of the lesion.

Discussion

Sporotrichosis is a subacute and chronic fungal infection caused by species of the *Sporothrix* genus. Notably, *Sporothrix brasiliensis* has been responsible for an epidemic in Rio de Janeiro, linked to feline zoonotic transmission³. Compulsory reporting in Rio de Janeiro since 2013 revealed a predominance in women (61%) and a higher incidence in individuals aged 40-59⁴. The infection commonly results from traumatic inoculation, often through contact with contaminated soil or through scratches and bites from infected cats^{2,5}.

Pediatric sporotrichosis is rare; primarily affects the skin of the face and limbs, particularly the hands, with lymphocutaneous involvement and the patient's close contact with cats suggested a potential association¹. The present case, in a 9-month-old patient with cervical and facial nodules, was diagnosed through mycological examination of the content of a nodule.

The literature review indicates that there are few cases of sporotrichosis in children under 1 year of age. Tlougan et al. reported, in 2009, a child residing in Texas who developed a facial lesion with confirmed *Sporothrix* etiology at just 3 weeks of age. This case represents the youngest patient documented in the literature⁶. A series of cases from the Chinese province



Figure 1. Two erythematous nodules in the cervical and facial region.

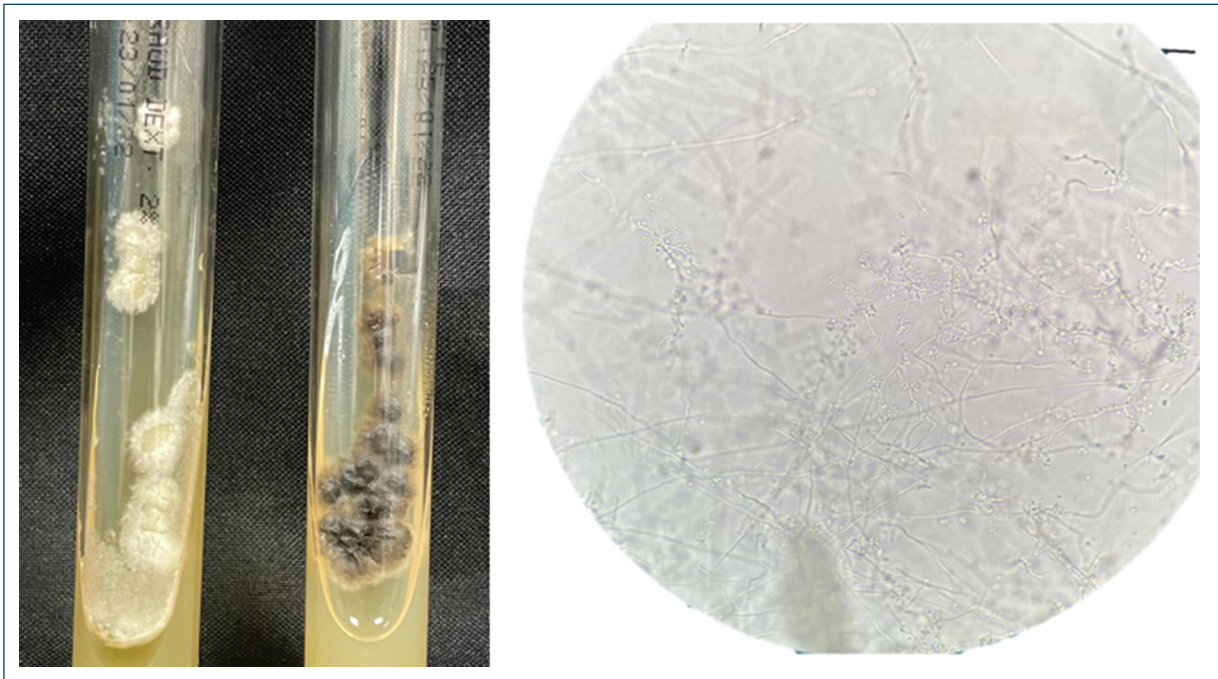


Figure 2. Mycological examination: macromorphology (figure on the left) reveals a membranous colony with a white color and a dark halo; micromorphology (figure on the right) reveals septate, branched, thin hyphae, from which conidiophores arise, giving rise to pyriform conidia arranged in a daisy-like pattern.

of Jilin reported 15 patients under 10 months of age affected by the disease. All presented ulcerated lesions on the face, with no association with local trauma or

contact with animals. In this series, the families of infants had the habit of using corn husks for cooking or heating. The isolation of *S. schenckii* from corn residues



Figure 3. Aspect of the lesions after 2 months of treatment with itraconazole. A discreet hyperchromic scar remained at the site of the lesion.

has been reported in India and Northeastern China⁷. Such reports indicate the variability of epidemiological profiles and disease transmission among countries. In this context, the case described in this study did not show a clear relationship with trauma before the development of lesions. However, close contact with cats is a crucial point for the potential association with this transmitting agent. Despite the patient hailing from an endemic area for sporotrichosis, he falls within an age group seldom described, classifying him as a relevant study subject. His clinical presentation, although documented, did not progress to ulceration, allowing for a wide range of possible diagnostic hypotheses for this age group⁸. Ultimately, access to appropriate laboratory tests enabled an accurate diagnosis and effective treatment, aiming to reduce morbidity and prevent the formation of unaesthetic scars.

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Conflicts of interest

None.

Ethical disclosures

Protection of humans and animals. The authors declare that the procedures followed were in accordance with the regulations established by the responsible Clinical Investigation and Ethics Committee and in accordance with those of the World Medical Association and the Declaration of Helsinki.

Data confidentiality. The authors declare to have followed the protocols of their workplace regarding the publication of patient data.

Right to privacy and written consent. The authors declare to have obtained written consent from the patients and/or subjects mentioned in the article. The corresponding author must possess this document.

Use of artificial intelligence to generate texts. The authors declare that they did not use any type of generative artificial intelligence in the writing of this manuscript nor for the creation of figures, graphs, tables, and/or their respective captions.

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